

Docket No.: DE 020185

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REMARKS**I. INTRODUCTION**

The title, specification and abstract have been amended. No new matter has been added. Claims 1-6 remain pending in the present application. In view of the above following remarks, it is respectfully submitted that all of the presently pending claims are allowable. Furthermore, in view of the above amendments to the specification and following remarks, it is respectfully submitted that all objections to the specification should be withdrawn.

**II. THE OBJECTIONS TO THE SPECIFICATION SHOULD BE WITHDRAWN**

The disclosure stands objected to by the Examiner due to the specification not including titling. (See 10/24/06 Office Action, p. 2, ¶ 1). Applicants respectfully traverse this objection. Subject headings (i.e., titling) are not statutorily required for filing a non-provisional patent application under 35 U.S.C. § 111(a), but per 37 C.F.R. 1.51(d) are only guidelines that are suggested for an applicant's use. Furthermore, the Office has stated that it will not require conformance with the format set forth in 37 C.F.R. 1.77. (See *Miscellaneous Changes in Patent Practice*, Response to comments 17 and 18 (Official Gazette, August 13, 1996) [Docket No.: 950620162-6014-02] RIN 0651-AA75 ("Section 1.77 is permissive rather than mandatory. ...[T]he Office will not require any application to comply with the format set forth in 1.77")). Accordingly, Applicants respectfully submit that this objection to the specification should be withdrawn.

The disclosure also stands objected by the Examiner due to the inclusion of references to the claim numbers in the specification. (See 10/24/06 Office Action, p. 2, ¶ 1). The specification has been amended to remove the references to the claims and the claim numbers. Accordingly, Applicants respectfully submit that this objection should be withdrawn.

The disclosure also stands objected by the Examiner to due to the abstract including references to purported merits of the invention. (See *Id.*, p. 2, ¶ 2). The abstract of the

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disclosure has been amended to remove the references to purported merits of the invention.

Accordingly, Applicants respectfully submit that this objection should be withdrawn.

The disclosure also stands objected by the Examiner to due to the abstract including references to legal phraseology, such as the term “comprises.” (See Id., p. 2, ¶ 3). The abstract of the disclosure has been amended to remove the term “comprises.” Accordingly, Applicants respectfully submit that this objection should be withdrawn.

The disclosure also stands objected by the Examiner to due to the abstract including references to implied phrases, such as “The invention relates to.” (See Id., pp. 2-3, ¶ 4). The abstract of the disclosure has been amended to remove the phrase “The invention relates to.” Accordingly, Applicants respectfully submit that this objection should be withdrawn.

The title of the invention stands objected by the Examiner. (See Id., p. 3, ¶ 5). The title of the disclosure has been amended from “DC/DC down converter” to “Converter for Direct Current to Direct Current Downward Conversion.” Accordingly, Applicants respectfully submit that this objection should be withdrawn.

### **III. THE 35 U.S.C. § 102(a) REJECTIONS SHOULD BE WITHDRAWN**

Claims 1-6 stand rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,512,352 to Qian (“Qian”). (See Id., p. 3, ¶ 2).

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Applicants respectfully submit that the Examiner's rejection under 35 U.S.C. § 102(a) is improper. It is important to note that the present application claims priority to International Publication No. WO 2004/013950, which has a foreign priority date of July 26, 2002. However, the Qian reference has a publication date of December 12, 2002. Thus, the priority date of the present application predates the publication date of the reference used by the Examiner for the 35 U.S.C. § 102(a) rejection. Accordingly, the rejection of claims 1-6 under 35 U.S.C. § 102(a) should be withdrawn. In the event the Qian reference is applied to the present application under an alternate rejection, it is important to note that Qian does not anticipate each of the limitations recited in claims 1-6 of the present invention. Accordingly, Applicants respectfully submit that the next Office Action submitted by the Examiner cannot be a Final Office Action. However, Applicants further submit that the present invention is not anticipated by the Qian reference.

Applicants submit that claim 1 recites, "an auxiliary circuit which includes an auxiliary switching element, an auxiliary rectifier and an auxiliary inductance, the auxiliary circuit being coupled to the connection between the synchronous rectifier, the switching element at the input side and the inductance at the output side."

Qian relates to a circuit for clamping a voltage across a switching element to a value equal to or less than the sum of the input voltage plus the voltage across a clamping capacitor. (See Qian, Abstract). Specifically, the circuit according to Qian includes a first power switch S1 connected across an unregulated DC input source  $V_{in}$ , where one side of the switch S1 is connected to a leakage inductor  $L_k$  associated with winding N1. (See *Id.*, col. 4, lines 21-27).

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It is important to note that the first switch S1 is connected in series with the unregulated DC input source. (See Id., col. 3, lines 10-14; and fig. 4). The circuit also includes an active clamp circuit for clamping the voltage across switch S1 during the transitions of the switch S1 from “on” to “off.” (See Id., col. 4, lines 28-33). However, the Qian disclosure fails to teach or suggest an equivalent component to the auxiliary branch as recited in claim 1.

The Examiner asserts that the first power switch S1 anticipates the auxiliary switching element recited in claim 1. (See 10/24/06 Office Action, p. 2, ¶ 2, line 5). Applicants respectfully submit that this assertion is incorrect. In addition, the Examiner goes on to assert that the first power switch S1 also anticipates the auxiliary circuit recited in claim 1. (See Id.). Applicants respectfully submit that this assertion is also incorrect. Initially, Applicants note that the first power switch S1 of Qian is not a circuit. Consequently, the first power switch S1 does not “include[s] an auxiliary switching element, an auxiliary rectifier and an auxiliary inductance,” as recited in claim 1 of the present invention. In addition, the first power switch S1 is not “coupled to a connection between the synchronous rectifier, the switching element at the input side and the inductance at the output side,” as further recited in claim 1 of the present invention. As described in the Qian reference and as illustrated in Fig. 4, the first power switch S1 is coupled to the DC input source and to a connection of the leakage inductor  $L_k$  and a clamping capacitor  $C_r$ .

Furthermore, in contrast to either the auxiliary circuit or the auxiliary switching element recited in claim 1, the switch S1 of the Qian disclosure is in series with the DC input source. In other words, the serially connected switch S1 is the only path from the DC input

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source to the other components of the Qian circuit. Therefore, removing the serially connected switch S1 from the circuit disclosed in Qian will stop the flow of current from the DC input source. Thus, the inclusion of the serially connected switch S1 is necessary for the Qian circuit to operate. This teaches away from the object of claim 1 of the present invention. Specifically, both the auxiliary circuit and the auxiliary switching element recited in claim 1 are exactly that, auxiliary. While the term "auxiliary" is not explicitly defined in the specification of the present invention, the ordinary meaning of the term "auxiliary" is "functioning in a subsidiary capacity; supplementary." (See Webster's Third New International Dictionary, 1991). As made clear by the ordinary meaning of the claim terms and by Fig. 1 of the present invention, the auxiliary circuit and the auxiliary switching element recited in claim 1 are a subsidiary and supplementary circuit and a subsidiary and supplementary switching element, respectively. Unlike the first power switch S1 of Qian, removing either the auxiliary circuit or the auxiliary switching element from the DC/DC down converter recited in claim 1 does not prevent the flow of current to the other components of the converter. Accordingly, the first power switch S1 of Qian is neither equivalent nor analogous to either the auxiliary circuit or the auxiliary switching element recited in claim 1 of the present invention.

Thus, Applicants respectfully submit that for at least the reasons stated above, claim 1 of the present application is not anticipated by Qian, and request that the rejection of this claim be withdrawn. As claims 2-6 depend from, and therefore include all the limitations of claim 1, it is hereby submitted that these claims are also allowable.

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CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. All issues raised by the Examiner having been addressed. An early and favorable action on the merits is earnestly solicited.

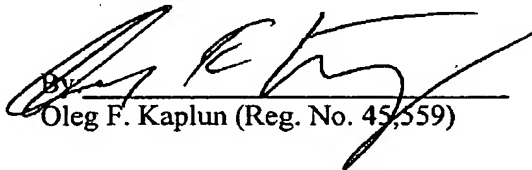
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Respectfully submitted,

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